DCCUMENT RESUME

ED 036 358 RC 004 064

AUTHOR FRICK, PAUL
TITLE TELLURIDE NONGRADED ELEMENTARY SCHOOL.
INSTITUTION COLORADC STATE DEPT. OF EDUCATION, DENVER.
SPCNS AGENCY FORD FCUNDATION, NEW YORK, N.Y.
PUB DATE 63
NOTE 27P.

EDRS PRICE EDRS PRICE MF-$0.25 HC-$1.45
DESCRIPTORS ACCELERATION, ARITHMETIC, *CURRICULUM EVALUATION, *ELEMENTARY GRADES, *INDIVIDUALIZED PROGRAMS, *NONGRADED SYSTEM, READING, REPORT CARDS, SCHOOL HOLDING POWER, SCHOOL SCHEDULES, *SMALL SCHOOLS
IDENTIFIERS WESTERN STATES SMALL SCHOOLS PROJECT

ABSTRACT

TEACHERS IN A SMALL COLORADO ELEMENTARY SCHOOL NOTED THAT THEIR SCHCOL PROGRAM NEEDED CHANGES IN (1) PROMOTION AND RETENTION, (2) ACCELERATION, (3) INDIVIDUALIZATION, AND (4) REPORT CARDS. A GRADUAL CONVERSION WAS MADE TO A NONGRADED SCHOOL PROGRAM. THE NCNGRADED SUBJECTS, READING AND ARITHMETIC, WERE SET UP FOR INDIVIDUALIZED INSTRUCTION. PROMCTION AND RETENTION WERE ELIMINATED; THUS, LEARNERS MADE PROGRESS AT THEIR CWN RATES OF SPEED AND WERE ADVANCED WHEN THEY LEARNED THE SKILLS AND CONCEPTS ASSURING THEM SUCCESS AT THE NEXT LEVEL OF LEARNING. ALSO, FAST LEARNERS WERE AILOWED TO ACCELERATE AT THEIR OWN RATES OF SPEED. IT WAS CONCLUDED THAT THE NONGRADED PROGRAM HAD BEEN SUCCESSFULLY ESTABLISHED AND THAT CONTINUED IMPRCVEMENTS WOULD INSURE LCNG-TERM SUCCESS. THE DOCUMENT IS APPENDED WITH A COMPARISON OF MAIN FEATURES OF THE GRADED VERSUS NONGRADED ELEMENTARY SCHOOL, WITH SAMPLE REPORT CARDS, AND WITH MATERIALS FOR EVALUATING READING AND ARITHMETIC SKILLS BY ACHIEVEMENT LEVELS. (AN)

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

ED 036358

COLORADO WESTERN STATES SMALL SCHOOLS PROJECT

DOCUMENTATION

TELLURIDE NONGRADED SCHOOL
Paul Frick
Telluride Elementary School
[1963]

COLO. STATE DEPT. OF
EDUCATION · DENVER
BYRON W. HANSFORD
COMMISSIONER

RC004064

THE WESTERN STATES SMALL SCHOOLS PROJECT

The Western States Small Schools Project, partly financed by a grant from the Ford Foundation, is designed to help the state education agencies in Colorado, Arizona, Nevada, New Mexico, and Utah in their efforts to improve instruction in the necessarily existent small schools. The Project began January, 1961 and will end August, 1965. Policy Board of the Project is composed of the chief state school officers of the cooperating states. Ralph G. Bohrson, Coordinator of the WSSSP, is headquartered in Denver, at the Colorado State Department of Education.

The Colorado portion of the Project, involving more than two hundred teachers and administrators in approximately thirty schools has been working in the following areas:

-- Ungraded or Continuous Progress Programs

-- Use of Self-Instructional Materials

-- Teacher Education and In-Service Programs

-- Institutes for Rural School Board Members

For additional information concerning the Colorado WSSSP, contact:

Edwin P. Hildebrand
~~Paul M. Nachtigal~~, Director
Colorado Western States Small Schools Project
State Department of Education
Denver, Colorado 80203

ED036358

TELLURIDE NONGRADED ELEMENTARY SCHOOL

Steps Leading to the Establishment of the Nongraded School.

It became apparent early in the 1959-1960 school year that the elementary school teachers were dissatisfied with certain aspects of the school program. Following is a list of their criticisms:

1. Promotion and retention - Some children at the end of a school year have not completed up to 25% or even 50% of that year's material. Is it in the child's best interests either to retain or promote him? The teachers felt that in each subject he should begin in the fall where he had ended in the spring. Our graded school prevented this from happening.

2. Acceleration - Children who have finished the year's material before the end of school were given "enrichment" or assisted slower students. Why should the gifted child be forced to "tread water" when he was ready to move into next year's subject matter? But what would next year's teacher use if the child used that same material toward the end of the proceeding year? The rigid graded structure of our school ruled out the flexibility necessary to meet the needs of the more rapid learners.

3. Individualization - Even though the pupils were arranged into two or three groups during reading and arithmetic and some individualized instruction took place during art and penmanship, it was thought that individualization of instruction was insufficiently emphasized. The faculty felt that changes in school goals and instructional methods were necessary.

4. Reporting - There was teacher dissatisfaction in the use of

letter grades on report cards because of the competition among pupils for high grades. The primary teachers in particular wanted to grade the children against themselves rather than against each other. It was felt that the grading system pulled the students toward the group approach rather than the individual approach to learning.

We thought that the nongraded school might be the answer to these problems. A day-long visit was arranged in the spring of 1960 to two nongraded elementary schools in Grand Junction, Colorado. Dr. Fred Jaquette, Director of Curriculum, explained the concept of nongrading and Mrs. Jo Shaeffer, Principal of Pear Park School, and Mr. John Crosby, Principal of Columbus School, showed us how their schools operated. Booklets explaining the Grand Junction plan of nongraded elementary schools were obtained. The faculty was favorably impressed by the day's visit and desired to learn more about nongrading.

During the remainder of the 1959-1960 school year and the first half of the 1960-1961 school year we endeavored to learn more about nongrading tried in other schools. Other information obtained:

1. Goodlad and Anderson's <u>The Nongraded Elementary School</u>.

2. Materials from the Appleton, Wisconsin, schools. During many faculty discussions we tried to determine what "brand" of nongrading best suited our situation.

In the fall of 1960 the faculty visited the nearby Norwood Elementary School, which had begun operation on a nongraded basis that fall. While no written information was available, much knowledge was gained by observing their nongraded primary school.

In December 1960 in answer to a letter requesting assistance, Mrs. Lucile Latting, Elementary Education Consultant of the Colorado State Department of Education, wrote us listing nongraded schools located in

the state and other sources of information. One of the schools that she mentioned was the Manaugh Elementary School in Cortez, Colorado.

On April 19, 1961, Mrs. Violet Garrison, Principal of the Manaugh School, and Mrs. Burnelle Horton, Manaugh teacher, came to Telluride and observed the school in operation. They met with the grade school faculty and spoke to a large evening PTA meeting. (A sheet comparing the graded with the nongraded elementary school was given to everyone attending the PTA meeting. A copy is included in the appendix.) These meetings were successful and plans were begun to nongrade our school in the fall of 1961.

At faculty meetings in the spring of 1961 we made rough drafts of reading and arithmetic levels and a new report card based largely on materials given us by Mrs. Garrison.

On May 5, 1961, the entire grade school faculty went to Cortez to observe the Manaugh School in session. Mrs. Garrison and the faculty greatly assisted us in helping crystallize the details for our school. Since our school was much smaller than the Manaugh School, we had to adapt their suggestions to our situation.

During the remainder of May and in June and July the details of our variety of nongrading were worked out. (A copy of the reading and arithmetic level synopsis and a report card for the primary and intermediate schools is included in the appendix.)

The Telluride Elementary School, including grades K-6, was formally designated a nongraded school on August 29, 1961. It consisted of a kindergarten, a three year primary school and a three year intermediate school.

The First Year of Nongrading: 1961 - 1962

The transition from the graded to the nongraded structure went smoothly. At the end of the 1960-1961 school year the first and sixth grade teacher resigned. The first grade replacement arrived in time to attend several of the summer planning sessions. Although it was the end of August before a sixth grade teacher was hired, there was no problem of transition.

The close, informal contact among the teachers assisted the transition. In May each teacher had given the teacher of the next grade a complete analysis of her pupils.

In September 1961 the children were given three or four weeks of review in reading and arithmetic. This was done for two reasons:

1. To counteract the usual loss of skills that takes place during the summer.

2. To give the teachers ample time to determine each child's arithmetic and reading level placement.

Three reading textbook series were purchased for these reasons:

1. There would be uniformity throughout our grade school reading program.

2. There would be readers of varying difficulty available for each year.

The three series were the Ginn (for the slower pupils), Scott-Foresman (for the average pupils), and Houghton-Mifflin (for the faster pupils). Thus, when a child reached, for example, level 7, the teacher could place him in a group using the reader most appropriate for his ability. If this pupil were placed in the Ginn reader (slower), when he finished it the teacher could move him into a group on level 8 or into the level 7 group using either the Scott-Foresman (average) or

Houghton-Mifflin reader (faster).

(A list of the arithmetic skills by levels is included in the appendix.)

No arithmetic texts were used in the primary school. The teachers used workbooks and dittoed material. In the intermediate school the Winston arithmetic series (1956) was used.

Depending upon the class, the pupils on a given arithmetic level were divided into one, two or three groups. Grouping was done on the basis of achievement.

Report cards were issued at the end of each quarter, the first and third at a parent-teacher interview at school. Letter grades were not used. The children were graded against themselves in terms of strong progress, normal progress and insufficient progress.

Two first year pupils were retained during the 1961-1962 school year. These were students who were still immature and whose academic achievement was low. Everyone else moved into the next year's room even though some had not completed all of the preceeding year's work in some subjects. During the review period in September the teachers arrived at an appropriate reading and arithmetic level placement for every child. In some cases they were placed in levels of the preceeding year and materials were borrowed from the child's former teacher.

As the year progressed, the children moved along with their groups, most of them covering what would be a normal year's program. The slower pupils either worked individually or formed small groups as did the faster ones. Several fifth year boys who were achieving on the third year level moved to the third year for spelling. (For spelling in both primary and intermediate rooms we used "Steps to Mastery of Words" by Educational Service, Inc. of Benton Harbor, Michigan.)

One very bright fifth year girl who was too mature for her classmates was moved into the sixth year for all her subjects. Other fast pupils were given enrichment in their rooms.

Emphasis was placed upon competing against one's self and moving along through the reading and arithmetic at one's own rate of speed.

The other subject areas were taught to the class as a whole. These subjects were individualized only in the teacher's expecting less of the less able and more from the more able.

The year's testing program consisted of giving the Lorge-Thorndike intelligence test, both verbal and non-verbal forms, to all third and sixth year pupils in the fall. In May, partial batteries of the Stanford Achievement tests were given to all the pupils.

Principal Violet Garrison and Mrs. Jeanne Cox, Manaugh school teacher, visited the school at our request on May 4, 1962. They felt that we had made a successful beginning in establishing nongrading throughout our six year grade school.

The annual WSSSP Workshop, held at Colorado State College in Greeley, Colorado, in June 1962, was attended by the following teachers:

Mrs. LaVerle Dunn, kindergarten; Mrs. Moylene Davis, 2nd year; Mrs. Prudence Scott, 3rd year; Mrs. Mary Stout, 4th year; Mrs. Bertha Albin, 5th year; and Mr. Paul Frick, superintendent. The teachers and superintendent presented a program explaining the nongraded school. We also met Dr. John Goodlad and obtained some useful ideas from him.

Conclusions: 1961-1962

The first year of nongrading went smoothly for the following reasons:

1. The administration and faculty were 100% in favor of the change.

2. The Board of Education favored it.

3. The community approved it.

4. Two years of preparation preceeded the change.

5. The change was not too radical. It was felt that each year new modifications would be made so that the change from graded to non-graded structure would be gradual.

A few conclusions drawn after the first year were as follows:

1. Reading and arithmetic levels. The reading and arithmetic levels should be abandoned since they were as rigid a structure as the former grades. The curriculum would be more flexible without the levels. The texts and tests that accompanied the readers would adequately serve as curriculum guidelines.

2. Overlapping. Overlap several year's materials in each room rather than send pupils back or ahead to other rooms. Remedial and enrichment materials could be borrowed from the appropriate teacher.

3. Report cards. Improve the report cards by changing the T-E-S code. The teachers thought that this code did not convey the desired information. Several teachers suggested doing away with report cards altogether.

4. Parent-teacher conferences. The parent-teacher conferences, held at the end of the first and third marking periods, were highly satisfactory and should be continued.

5. Instructional materials room. An instructional materials room should be created and adequately supplied.

6. Reading texts. The three reading series were satisfactory.

7. Modern math. The Winston series should be replaced with a modern math series available for both the primary and intermediate schools.

8. Pupils' reaction to nongrading. The pupils accepted the non-grading because there were few radical changes. They remained with their peers, the same as under the graded plan, since there was only one room for each year's pupils. They were familiar with grouping since it had been practiced for a number of years. They missed the letter grades on exercises, tests and report cards and couldn't resist comparing the T's, E's and S's with each other. The three fifth year boys, who went to the third year room for spelling, were self-conscious and didn't like going there.

9. Individualization of instruction. Teaching for individual differences was emphasized.

10. Intelligence and achievement tests. The Lorge-Thorndike intelligence test should be given during the fall of the third and fifth years rather than the third and sixth. This change would enable the fifth year teacher to benefit by two tests instead of only one. The Standord tests should be administered in April instead of May to avoid the end-of-year confusion. A reading readiness test should be given in the fall to all first year pupils.

The Second Year of Nongrading: 1962-63

The entire grade school faculty returned which enabled a smooth entry into the second year of nongrading. Pupil placement was ascertained during a three to four week's review period through observation, testing and consultation with the preceeding year's teacher. One child was retained in the first year because of immaturity.

The levels were dropped although the teachers kept the reading and arithmetic synopsis sheets and the detailed arithmetic skill sheets as personal guides. Neither parents nor pupils missed the levels.

Each child was started in reading and arithmetic where he had ended in May. This required considerable use of materials from the preceeding year's room. This overlapping worked very well. One immature first year child spent mornings in the kindergarten room. No one else moved to a lower room.

In March a bright fifth year boy was moved into sixth year during arithmetic. Later in the year two more fifth year boys also moved ahead during arithmetic. In April the top first year group moved into the second year room for reading.

Numerous faculty meetings were devoted to improving the report cards. Everyone agreed that the pupils should be graded against themselves. Agreement could not be reached on the design of the card.

Parent-teacher conferences held the first and third marking periods worked well. Teachers kept files of the pupils' work and discussed them with the parents.

The instructional materials room was not ready for use until after school in June 1963. It should help during the 1963-1964 school year.

Modern math was not available in text form, so the Winston series teacher-made materials and workbooks were again used.

New texts were purchased for the entire grade school in science (Macmillan) and social studies (Follett).

Five high school girls served as pupil aids during all or a portion of the school year. They were very helpful.

Two counselors were available during the school year. Mr. Thomas Beattie, the high school history teacher, and Mrs. Prudence Scott, the third year teacher, were helpful in organizing and administering the testing program and in counseling pupils with emotional problems. Mr. Beattie was assigned two guidance periods each day. Mrs. Scott utilized released time during music, morning and afternoon recess and Spanish for her guidance work.

The testing program consisted of giving the Lorge-Thorndike intelligence test to all third and fifth year pupils and the Gates reading readiness test to all first year pupils in the fall, and the Stanford partial battery to all the children in the spring.

Conclusions: 1962-1963

The modifications put into effect in the fall of 1962 greatly strengthened the school. Nongrading appears to be successfully established. If the faculty and administration strive to improve the school each year and modify our variety of nongrading to fit our school and community, the experiment will be assured long term success.

Some conclusions and recommendations for next year:

1. Report cards. The report cards need to be improved. The T-E-S code should be replaced with another code that indicates how well the pupil is doing in relationship to his own ability.

2. Parent-teacher conferences. Parent-teacher conferences at the end of the first and third reporting periods should be continued. A conference guide sheet is needed to ensure that all the necessary information is imparted and that all problems are discussed. These conference guide sheets should be placed in the childrens' permanent records for future reference.

3. School goals. A reevaluation of school philosophy and goals needs to be made.

4. Reading skills. The basic reading skills should be evaluated and a sequence established for teaching the skills.

5. Arithmetic skills. The arithmetic skills sheet needs to be reevaluated.

6. Student aids. Student aids have been very useful in freeing teachers for the more essential parts of their jobs. This program should be continued.

7. Grouping. The arranging of pupils into small groups to assist individualization of instruction should be limited primarily to the teaching of reading and arithmetic and should be done only occasionally

in the other subject fields. Grouping during reading and arithmetic instruction should be done mainly on the basis of skill mastery and in other subjects on the basis of interest. Subjects such as science and social studies should continue to be taught as an entire group to help maintain the feeling of class unity.

8. Reading and arithmetic levels. The elimination of the levels increased the flexibility of the administrative structure. The levels were not missed and should not be reinstated.

9. Overlapping. Both overlapping and moving pupils back and ahead worked satisfactorily in most cases and should be continued.

10. Instructional materials room. This room is ready for the 1963-1964 school year and should be adequately supplied.

11. Modern math. A new text in modern math is needed and should be purchased as soon as one is available for all six years.

12. Individualization. It should be kept in mind that grouping is not complete individualization. Efforts should be made to make the instruction more individualized.

13. Guidance counselor. It was very helpful to have a grade school counselor this year. One should be available every year.

14. Permanent records. At present we are putting letter grades on each pupil's permanent record in case he transfers to another school or our experiment in nongrading is discontinued. This should be continued another year. The record forms are not designed for a nongraded school. A newly designed record is needed.

15. Kindergarten. Nearly all Telluride children attend kindergarten even though it is not compulsory to do so. Kindergarten is considered to be part of our nongraded school. Pupils who attend receive a good foundation for first year skills. It should be continued.

16. Continuous progress. This concept, which is another way of saying individualized instruction, is the basis of our school. The nongraded administrative structure greatly assists in the individualization of instruction.

17. Experimentation. The spirit of experimentation evidenced by the faculty has been largely responsible for the success of this experiment. This spirit should be fostered in the future.

18. Testing program. The types and variety of tests given were satisfactory, but the Stanford tests should be given in the fall. It was believed that they would be more helpful to the teachers if administered in September or October.

19. Programed materials. During the past two years the SRA Reading Lab has been used extensively in the fourth year room. It was recommended that appropriate SRA Labs be purchased for the fifth and sixth year rooms. It was also recommended that both primary and intermediate teachers experiment during the coming year in the use of other programed instructional materials.

20. Reevaluation of nongrading. We have continuously reevaluated our nongraded school during the two years of its existence. This process should continue with even more emphasis than in the past.

APPENDIX

TELLURIDE ELEMENTARY SCHOOL

Faculty Roster

1959 - 1960

Ruthe Stitzer (K)
Harriet Overaker (1)
Moylene Davis (2)
Prudence Scott (3)
Mary Stout (4)
Sarah Shaffer (5)
LaVerle Dunn (6)

1960 - 1961

Ruthe Stitzer (K)
Frances Blackburn (1)
Moylene Davis (2)
Prudence Scott (3)
Mary Stout (4)
Bertha Albin (5)
LaVerle Dunn (6)

1961 - 1962

LaVerle Dunn (K)
Everly Haynes (1)
Moylene Davis (2)
Prudence Scott (3)
Mary Stout (4)
Bertha Albin (5)
Ernest Hawkins (6)

1962 - 1963

LaVerle Dunn (K)
Everly Haynes (1)
Moylene Davis (2)
Prudence Scott (3)
Mary Stout (4)
Bertha Albin (5)
Ernest Hawkins (6)

COMPARING THE GRADED AND NONGRADED ELEMENTARY SCHOOL

The elementary school faculty and administration believe that our school can be greatly improved by changing it from the graded to the nongraded type. Below is a brief comparison of the main features of these two systems.

GRADED	NONGRADED
Organization	
Children are grouped into inflexible divisions (grades) which have rigid time limits for promotion	Children are grouped into flexible ever-changing divisions which allow the pupil to advance whenever he is ready.
Individual Differences	
Teachers tend to consider children in groups rather than as individuals.	Absence of grade levels and placement in appropriate groups forces teachers to consider each child as an individual.
General Atmosphere	
Changes to improve the school are not often made as the status quo is considered good enough.	Changes to improve the school are frequently made as new ideas and the spirit of experimentation are encouraged.
Flexibility	
Grade levels encourage inflexibility of scheduling. Make the child fit the situation.	The situation is changed to fit the needs of the pupils. The schedule becomes secondary to the child and the curriculum.
Retention	
Children who do not learn the subject matter of their grade level by the end of the school year are retained in the grade.	Since there are no grade levels there are no time limits and therefore no retentions. Children progress at their own rates of speed.
Promotion	
Pupils are promoted at the end of the school year. Progress is a grade-to-grade situation.	There is no promotion in the graded sense. Pupils are advanced when they have learned the skills and concepts assuring their success at the next level of learning.

Remedial Work

Slow learners must be given special instruction when and if the teacher finds time.

By special grouping slow learners are given full time schedules at their level of achievement.

Acceleration

To keep fast learners from becoming bored, they must be given a special enrichment program (if and when the teacher finds time) or made to skip a grade.

Fast learners move ahead at their own rate of speed. No pupils skip a grade.

Mental Health

Pupils are forced to attempt to compete with others who are different in learning rate. Result is development of mental blocks set up thru impossible demands.

Pupils compete with other pupils who are doing the same level of work. The result is successful competition resulting in mental well being and educational growth.

EXPLANATION OF MARKS

T-Strong Progress
E-Normal Progress
S-Insufficient progress
Inc-Incomplete work

	Marking Period					
READING	1	2	Sem	3	4	Sem
Oral reading						
Understanding of content						
Using phonetic skills						
Mastery of new words						
LANGUAGE						
Correct oral usage						
Correct written usage						
Expression of ideas						
SPELLING						
PHONICS						
NUMBERS						
Accuracy						
Reasoning						
Understanding of concepts						
SOCIAL STUDIES						
Increasing his understanding of world						
Contribution to group activity						
MUSIC						
ART						
PENMANSHIP						
SCIENCE						
Contribution to group activity						
SPANISH						

	Marking Period					
PERSONALITY DEVELOPMENT	1	2	Sem	3	4	Sem
Works and plays well with others						
Practices good health habits						
Shows consideration and courtesy for others						
Obeys school rules						
Respects authority						
WORK HABITS						
Works independently						
Listens and follows directions						
Does neat and careful work						
Starts and completes work on time						
Has material ready						
EMOTIONAL HABITS						
Is happy and well adjusted						
Shows self-discipline						

LEVELS

	MARKING PERIOD			
	1	2	3	4
Present READING level				
Present ARITHMETIC level				

	Marking Period					
READING	1	2	Sem	3	4	Sem
Understanding of content						
Reading speed						
Mastery of new words						
Interest in library books						
ENGLISH						
Self expression Oral						
Self expression Written						
Grammar						
SPELLING						
Spelling						
Meanings						
Use of dictionary						
ARITHMETIC						
Understanding of concepts						
Contribution to group activity						
SOCIAL STUDIES						
History						
Geography						
Projects						
MUSIC						
ART						
SPANISH						
PENMANSHIP						
CURRENT EVENTS						

EXPLANATION OF MARKS
T-Strong Progress
E-Normal Progress
S-Insufficient progress
Inc-Incomplete work

	Marking Period					
PERSONALITY DEVELOPMENT	1	2	Sem	3	4	Sem
Works and plays well with others						
Practices good health habits						
Shows consideration and courtesy for others						
Obeys school rules						
Respects authority						
WORK HABITS						
Works independently						
Listens and follows directions						
Does neat and careful work						
Starts and completes work on time						
Has material ready						
EMOTIONAL HABITS						
Is happy and well adjusted						
Shows self-discipline						

LEVELS

	Marking Period			
	1	2	3	4
Present READING level				
Present ARITHMETIC level				

READING SYNOPSIS

Kindergarten	Corresponding Grade
Primary school	
Level 1 - Pre-readiness	1
Level 2 - Readiness	
Level 3 - Pre-primer	
Level 4 - Primer	
Level 5 - First reader	
Level 6 - Review	2
Level 7 - Second reader	
Level 8 - Advanced second reader	
Level 9 - Review	3
Level 10 - Third reader	
Level 11 - Advanced third reader	
Intermediate school	
Level 12 - Review	4
Level 13 - Fourth reader	
Level 14 - Advanced fourth reader	
Level 15 - Review	5
Level 16 - Fifth reader	
Level 17 - Advanced fifth reader	
Level 18 - Review	6
Level 19 - Sixth reader	
Level 20 - Advanced sixth reader	

ARITHMETIC SYNOPSIS

Kindergarten	Corresponding Grade
Primary school	
Level 1	1
Level 2	
Level 3 - Review	2
Level 4	
Level 5	
Level 6 - Review	3
Level 7	
Level 8	
Intermediate school	
Level 9 - Review	4
Level 10	
Level 11	
Level 12 - Review	5
Level 13	
Level 14	
Level 15 - Review	6
Level 16	
Level 17	

SKILLS BY LEVELS

Introduced	Developed

Kindergarten (one year)

1. Recognition of numbers 1 - 10.
2. Writing of numbers 1 - 10.

Primary (three years)

Level 1

1. Review of numbers 1 - 10 for those having had kindergarten.
2. Recognition of numbers 1 - 10.
3. Writing of numbers 1 - 10.
4. Count to 100 by 1, 2, 5 and 10.
5. Write to 100 by 1, 2, 5 and 10.

Level 2

1. Addition facts-sums to 9.
2. Subtraction facts-minuends to 9.
3. Recognition of time-hour and half hour.
4. Recognition of money-all U. S. money.
5. Using money-1¢, 5¢, 10¢.
6. Use of ruler-linear-1 inch to 12 inches.
7. Liquid measure-pint and quarts.
8. Calendar-days, weeks, year.
9. Comparison vocabulary.
10. Terms and signs - + = & -.

Level 3

1. Review.

Level 4

1. Understand, count, read, write numbers to 200 and place value of units; ones, tens, and hundreds.
2. Addition facts-sums to 12.
3. Subtraction facts-minuends to 12.
4. Recognizing and using U. S. money-1¢, 5¢, 10¢ and 25¢.
5. Recognition of fractions - ¼ and ½.
6. Measures-cup, pint, quart, inch, foot, yard (recognizing).
7. Recognition of time-hour and one-half hour.
8. Ordinal numbers-First through Fifth.
9. Problem solving-addition and subtraction.
10. Comparison vocabulary.
11. Terms and signs-and, take away, equals.

Level 5

1. Understand, count, read, write numbers to 500 and place value of units; ones, tens, and hundreds.
2. Addition facts-sums to 12.
3. Subtraction facts-minuends to 12.
4. Learn to add three addends; problem sums to 12.

	Introduced	Developed
5. Recognizing and using U. S. money-50¢ and $1.00.		
6. Recognition of fractions-¼, ½ and 1/3.		
7. Recognition of time-hour and ½ hour.		
8. Addition and subtraction of two place numbers with no borrowing and carrying.		
9. Measures-cup, pint, quart, inch, foot, yard (recognizing and using).		
10. Ordinal numbers-sixth through tenth.		
11. Problem solving-addition and subtraction.		
12. Comparisons.		
13. Terms and signs.		
Level 6		
1. Review		
Level 7		
1. Reading and writing numbers to 1000.		
2. Ordinal numbers-tenth through twentieth.		
3. Addition combinations with sums of 20.		
4. Subtraction combinations with minuends of 20.		
5. Time-minute, one-fourth hour, one-half hour, hour, week, month, calendar.		
6. Roman numerals through 10.		
7. Recognition of fractions, 1/2, 1/3, 1/4, 1/6, 1/8, 1/10 and 1/12.		
8. Recognizing and writing money to $100.00		
9. Measures and weights-inch, foot, pint, quart, pound, ounce, dozen, one-half dozen.		
10. Zero concept.		
11. Addition of 3-place numbers-no carrying.		
12. Subtraction of 3-place numbers-no borrowing.		
13. Division through twos, no remainders.		
14. Multiplication through threes.		
15. Problem solving-addition and subtraction.		
16. Comparisons.		
17. Terms.		
18. Multiply two or three place numbers by one multiplier without carrying.		
Level 8		
1. Reading and writing numbers to 1000.		
2. Ordinal numbers-through 20.		
3. Addition combinations with sums to 30.		
4. Subtraction combinations with minuends to 30.		
5. Telling time, minute, one-fourth hour, one-half hour, hour, week, month, calendar.		
6. Roman numberals through 20.		
7. Recognition of fractions-1/2, 1/3, 1/4, 1/6, 1/8, 1/10, 1/12.		
8. Recognizing and writing money to $100.00		
9. Measures and weights-inch, foot, yard, pint, quart, ounce, pound, dozen, one-half dozen.		

	Introduced	Developed
10. Zero concept		
11. Two-digit carrying in 3 place numbers in addition		
12. Two-digit borrowing in subtraction in 3 place numbers		
13. Division facts through fives, no remainders		
14. Multiplication through fives		
15. Multiply two or three place numbers by one number with or without carrying		
16. Problem solving		
17. Comparisons		
18. Terms		
Intermediate (three years)		
Level 9 (Review)		
Level 10		
1. Reading, recognizing and writing numbers to 100,000		
2. All basic addition facts		
3. Three addends with two place numbers		
4. Two addends with three place numbers		
5. Ragged addends to three place numbers		
6. Two-digit carrying in three place numbers in addition		
7. All basic subtraction facts		
8. Three-digit borrowing in subtraction in four place numbers		
9. Multiplication through sevens		
10. Multiply two or three place numbers by one number with or without carrying		
11. Division facts through sevens, no remainders		
12. Checking answers in addition, subtraction and division		
13. Using zero concept		
14. Roman numerals through 50		
15. Recognizing and writing fractions--1/2, 1/3, 1/4, 1/6, 1/8.		
16. Recognizing and writing money in all processes		
17. Using measures in problem solving		
18. Telling and writing time		
19. Terms		
Level 11		
1. Reading and recognizing and writing numbers to 1,000,000		
2. Four addends with two or three place numbers		
3. Three addends with three place numbers		
4. Ragged addends to four place numbers		
5. Three digit carrying in four place numbers		
6. Four digit borrowing in subtraction in five place numbers		
7. Multiplication through nines		
8. Multiply two or three place numbers by one number with or without carrying		

	Introduced	Developed
9. Division facts through nines with remainders.		
10. Long division with one number divisors.		
11. Checking answers.		
12. Using zero concept.		
13. Roman numerals through 100.		
14. Recognizing and writing proper fractions through 7/8.		
15. Two step problems.		
16. "Average" concept.		
17. Terms.		
Level 12 (Review)		
Level 13		
1. Reading, recognizing and writing numbers to 1,000,000,000.		
2. Five or more addends with four place numbers.		
3. Ragged addends to four place numbers.		
4. Four digit carrying in five place numbers. in addition.		
5. Five digit borrowing in subtracting in six place numbers.		
6. All basic multiplication facts.		
7. Multiply three place numbers by two place numbers.		
8. All basic division facts.		
9. Long division with one or two place divisors.		
10. Estimating quotients.		
11. "Average" concepts.		
12. Terms.		
Level 14		
1. Continue use of all basic facts.		
2. Meaning of proper and improper fractions.		
3. Changing to lower and higher terms.		
4. Changing improper fractions to mixed numbers and vice versa.		
5. Addition and subtraction of like fractions.		
6. Multiplying whole numbers by fractions.		
7. Multiplying fractions by whole numbers.		
8. Introduce decimal concept, tenths, hundreds.		
9. Units of measure-liquid, dry, weight, time, area, time zones.		
10. Graphs and maps.		
11. Terms.		
Level 15 (Review)		
Level 16		
1. Division of two and three place numbers.		
2. Multiplying by two and three place numbers.		
3. Adding common fractions.		
4. Subtracting common fractions.		
5. Adding decimal fractions.		

	Introduced	Developed
6. Subtracting decimal fractions.		
7. Checking answers.		
8. Estimating answers.		
9. Terms.		
Level 17		
1. Multiplying fractions by fractions and mixed numbers.		
2. Multiplying whole numbers and mixed numbers.		
3. Cancellation.		
4. Division of whole numbers and fractions and by mixed numbers.		
5. Division of fractions and mixed numbers by fractions.		
6. Division of fractions by mixed numbers.		
7. Division mixed numbers by whole numbers.		
8. Multiply in decimal fractions.		
9. Dividing decimal fractions.		
10. Understanding and using all measurements.		
11. Making and using graphs, maps, and scaled drawings.		
12. Beginning geometry concepts.		
13. Beginning algebra.		